

2008 Research and Development Plan

Arkansas Science & Technology Authority

Approved: September 21, 2007

Vision: The Arkansas Science & Technology Authority believes that the economic well-being of Arkansas, its communities, and its citizens is enhanced through the wise and appropriate application of science and technology to security, health, education, government, business opportunities, agriculture, and environmental protection.

Mission: The mission of the Authority is to bring the benefits of science and advanced technology to the people and state of Arkansas.

For the purpose of R&D planning, the Authority made the following assumptions: the context for R&D is economic growth; economic growth is driven by investments in innovation and human capital; the key partners in achieving economic growth are existing and emerging technology (or knowledge-based) firms, research universities, and the educational infrastructure; and the roles of the key partners are to create businesses, high paying jobs, and wealth by commercializing innovations; to produce innovations and knowledge workers; and to focus limited resources on the best research and development opportunities for existing and emerging technology firms.

2008 State R&D Plan

Research areas and cross-cutting disciplines of strategic importance to Arkansas in 2008 include:

Advanced Materials and Manufacturing Systems with emphases on:

- Electronics; Nanotechnology; Photonics; and other Advanced Technologies and
- Lean Manufacturing, Quality Management, Six Sigma, and Environmental Issues related to manufacturing.

Environmental Sciences with emphases on:

- Advanced Thermal Technologies;
- Energy and Renewable Resources;
- Geosystems and Environmental Impacts; and
- Sustainability.

Biotechnology, Bioengineering, Agriculture and Life Sciences with emphases on:

- Genetics; Geriatrics; Medical Devices; Neuroscience; Nutrition; Oncology; and other Medical and Plant Biotechnologies.
- Nanotoxicology.

Information Technology with emphases on developments in:

- Data, Knowledge, and Systems Engineering;
- Data and Information Quality;
- Distributed Systems;
- Software Development; and
- State-of-the-art applications of information technology to Bioinformatics, Healthcare, Logistics, and Transportation.

Human Resource Development with emphases on:

- The knowledge-based Career Pipeline, including undergraduate research support for students;
- Linkages between undergraduate and graduate programs; and
- Career Pathways and improved workforce connections between employment and lifelong education.